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**Figure 1A**

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cZyxin	319-331	L T M K E   V E E   L E   L L T
MAPKK	32- 44	A <u>L</u> Q K K L   E E E   L E   L D E
PKI- $\alpha$	37- 46	<u>L</u> A <u>L</u> K L   A G L   D I
TFIII A	330-338	<u>L</u> P V L   E N L   T L
RevHIV-1	73- 81	<u>L</u> P P L   E R L   T L
RanBP1	178-189	K V A E K L   E A L   S V R
FMRP	425-437	E V D Q <u>L</u> R L   E R L   Q I D
Glel	351-356	<u>L</u> P L   G K L   T L
RexHTLV-1	81- 94	A L S A Q <u>L</u> Y   S S L   S L D S
human NADE	65- 77	R E <u>I</u> R R K L   R E L   Q L R
mouse NADE	88-100	R E <u>I</u> R R K L   R E L   Q L R

Figure 1B

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	Box 1	Box 2
Mouse 88-114	REIIRRKLRELQLRNCLRILMGEISNHH	
Human 75-101	REIIRRKLRELQLRNCLRILMGEISNHH	
Consensus	RXXLXXXLX--N	RXXLXXXLXN

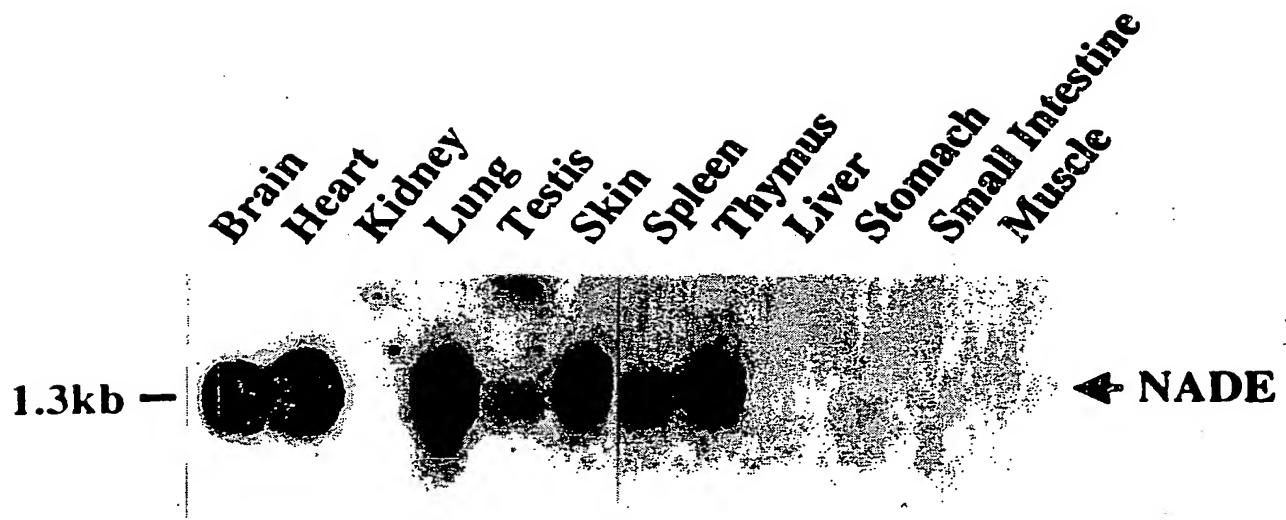
**Figure 1 C**

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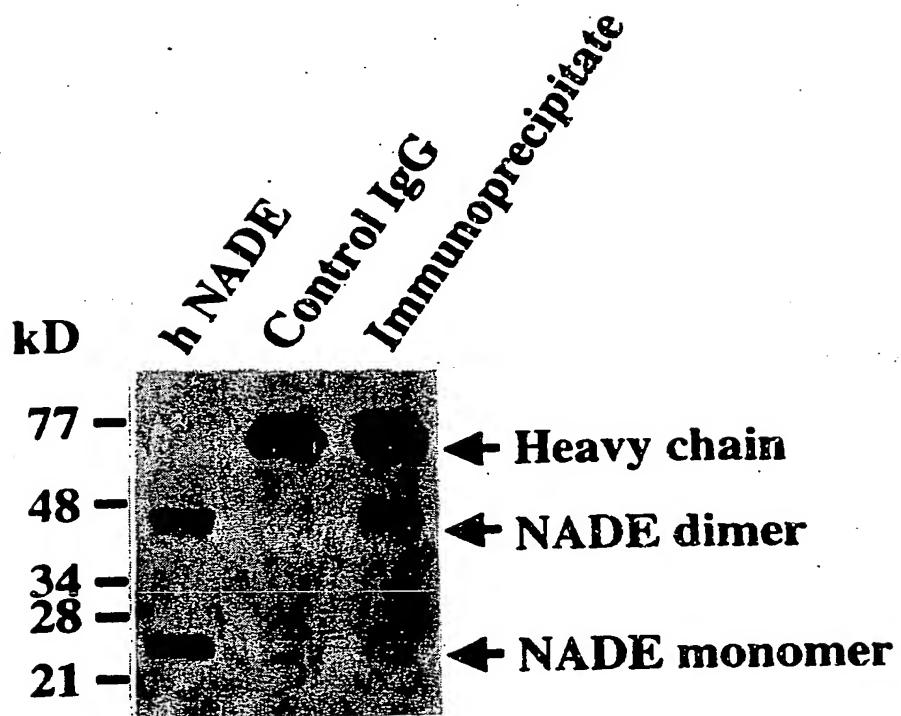
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**Figure 1D**

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**Figure 1E**

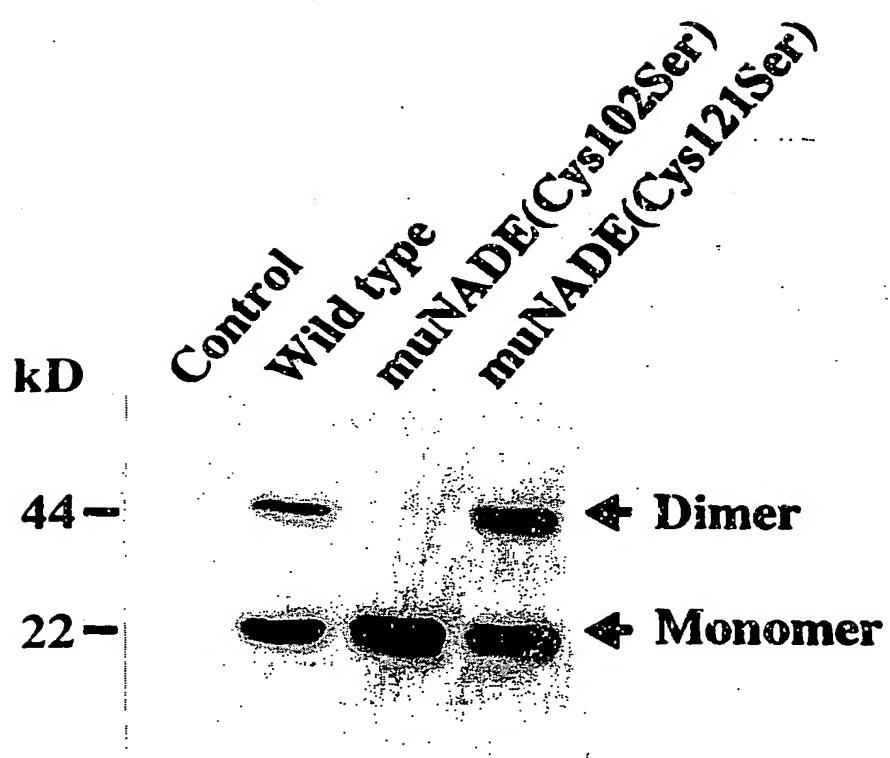
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**Figure 1F**



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**Figure 1G-1**

## Mouse

1 acgagcgtctggccagcagctcgagctccccctgcgcggcggctggcagcggcccc 60  
 61 aggcgagcgggacagatcgactogaagcccagagtccaggcggc&gcggaaatcgacagg 120  
 121 aggactacgccgcaaggataggcccagaatagcaaccaggaaacaaaatctcatcatgg 180  
 181 ccaatgtccaccaggaaaacgaagagctggagcagccccctgcagaatggacaggagacc 240  
 241 gcctgtgggaggaggtagggccaccagccgtgcacaacacaacaacaaccaca 300  
 301 accataaccacaaccaccaccgaagaggccaggctgcccgcattcccccaacttccgat 360  
 361 ggccatccaaacaygcagatgaatgacgggttggtggagatggagatgatatggaaa 420  
 421 tggcatggaggagatgagagagatccggagaaagcttagggagctcacagctgagaatt 480  
 481 ctctacgcattatggggagactgtcaaccaccacgtcaccatgtgaattttggcc 540  
 541 ttatgccttgcattcggtcatccccccctgagatccatactgtgactcccgcgttagccc 600  
 601 ttccatggcattttcctgacatggcattaatgacccgttggtgagccctgtgttat 660  
 661 tccatggccatgtgcgcaggcgggggcctgtgttgccagtcga

## **Human**

1 accccatccccactctataccggcccccattttgtgcctgcaagctctggaaag 60  
 60 aatcccggaaaacgaaaaatggtgggtttggggaaaggaggtaagggagaaagctgga 120  
 121 gggagggcttaattggaggccccgttagaggacgcgcggaaaccttaaggcgaaaaa 180  
 181 acgaaattaaaaaatcccttgatattcagggctctgaatccctgtggtcagagcaccaagc 240  
 241 attcagtctctcttgccttgccttacttgttcaagaaaaaacaccagaaaaaa 300  
 301 aaaaatccatcatggccaaatatccaccaggaaaacgaagagatggagcagcctatgcaga 360  
 361 atggagaggaagaccggcccttgggaggaggtaaggccaccagccgcaggaaatcgac 420  
 421 ggggacaggctgcccacttgcctttaattttcgatggccatacccaaataggcaatca 480  
 481 atgatggatgggtggagatggagatgatggaaatattcatggaggagatgagagaa 540  
 541 ccagaagaaaaacttagggagccagttgaggaatgtctgcgtatccctatggggagc 600  
 601 cccataatcaccatgaccatccatgatgaatccgcctatgcctgactccgcattg 660  
 661 ccatgagatataactgtatccccgtgccctttccctgtgattccatatatgc 720  
 721 cttactgtatccgtttgtgaaacccatgttatccatgtgtcaagtgggtgtg 780  
 781 ccgcagatccatgaaagatgccctgacccatgtggtagtttgtgcag 840  
 841 ccacccatgatgaaaaaaagcaaagcaaaaaaagc

**Figure 1G-2**

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	1	15	16	30	31	45	46	60	61	75	76	90
1	musnadeja	MESKO-QGVNLAME	NHQKKEEKEKEKEKP-QDTIRREPAVALISEAG	KNCAPR-----	-----GGRRFVRV	QPIAHYRNDLMDQRVG	EPQGRMTEENVQRFQ					
2	humadeja1	MESKEERALANLIVE	NVQNDEDEKE-EQVANKEPL-ALPLAVS	ETCUPR-----	-----GRRRFVRV	QPILOTRNDIMHRLA3	EPQARTREEAMERIG					
3	humadeja2	MESKERAVNSLME	NANQEN---PEKE-QVANKEPL-ALPLAQ	EYCVPR-----	-----GRRRFVRV	QPISHYRNDLAKHVG	EPQGRMREENVQRFQ					
4	ratnadia	MESKO-QGARNLAME	NHQKKEEKEKEKP-QDTIKREPVAFTFAG	KNCAPR-----	-----GRRRFVRV	QPISHYRNDLAKHVG	EPQGRMREENVQRFQ					
5	ratnadib	MASKVKQVILDLTVE	KDKKNGKGASK-QSEEEPS---HHLEEVEN	KKP-----	-----GAVVRKVR	RUVPNFLMAIPHRV	D-----HSEGGEERVG					
6	musnadejb	MASKFKQVILDLTVE	KDKKKGASK-QSEEEPS---HHLEEVEN	KKP-----	-----GAVVRKVR	RUVPNFLMAIPHRV	D-----RNEGGEDVG					
7	humadel	MA	NTHQENEEMEQPM-QNGQDREPLGGEGCHOPA	-----	-----GRRGQAR	RLAPNFRMIAIPRQI	N---DGMGDDME					
8	ratnadel	MEQPL-QNGQDREPLGGEGCHOPA	-----	-----GRRGQAR	RLAPNFRMIAIPRQI	N---DGLGDDME						
9	musnadel1	MA	NTHQENEEMEQPM-QNGQDREPLGGEGCHOPA	-----	-----RGQAR	RLAPNFRMIAIPRQI	N---DGLGDDME					
10	humadel2	MB	NVPKRNKVKEAPVN--EAPOLOGIE/QEP	-----	-----GAVVKWMA	PPIEGFGELVPRLV	D-NIMIDGDGDM					

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	91	105	106	120	121	135	136	150	151	165	166	180
1	musnadeja	GTVRQLME---KLRB	RQLSHSLRAVSTDPP-	HHDHHDEFCLMP	130							
2	humadeja1	EVTRQLME---KLRB	KQLSHSLRAVSTDPP	-HHDHHDEFCLMP								
3	humadeja2	EVTRQLME---KLRB	KQLSHSLRAVSTDPP	-HHDHHDEFCLMP	125							
4	ratnadja	EDTRQLME---KLRB	RQLSHSLRAVSTDPP	-HHDHHDEFCLMP								
5	ratnadib	RFVQGQMEAKRKT	QCRPTTRPTPEPD	NHD----FCPIP								
6	musnadel1	RFVQGTEKRTY	QVVRPTTRPTPEPD	NHD----FCPIP	97							
7	humadel1	ITHEEMRETRKLR	LQLENCLRILMELS	NHDHHDEFCLMP								
8	ratnadel	NFMEEZAREIRRKLR	IQLENCLRILMELS	NHDHHDEFCLMP								
9	musnadel1	NFMEEZAREIPRKLRS	IQLENCLRILMELS	NHDHHDEFCLMP								
10	humadel2	RFMEEZARELRRKIRE	IQLRYSLRILJGDPP	-HHDHHDEFCLMP								

Figure 1H

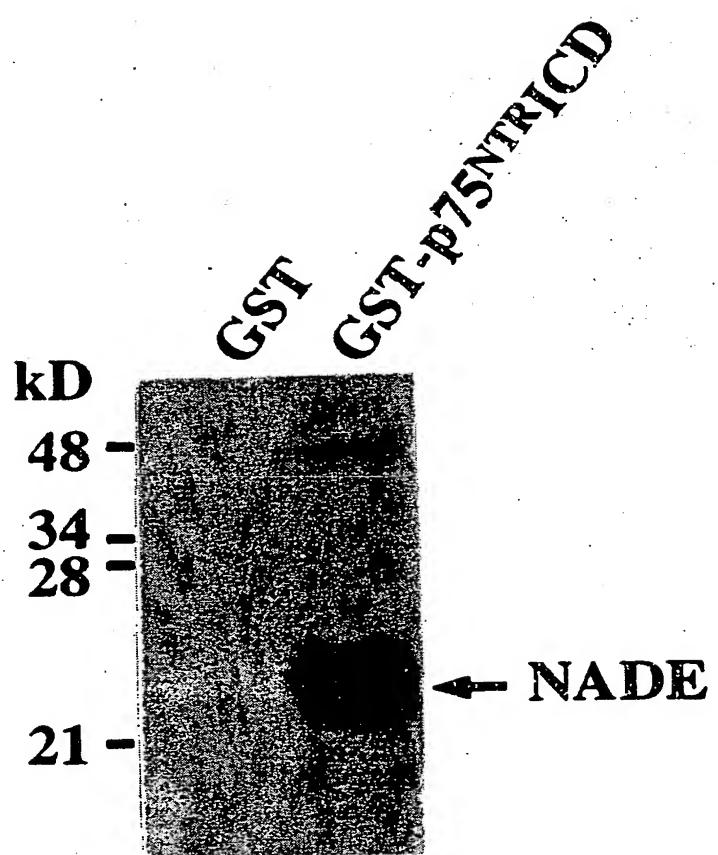
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## Figure 2A



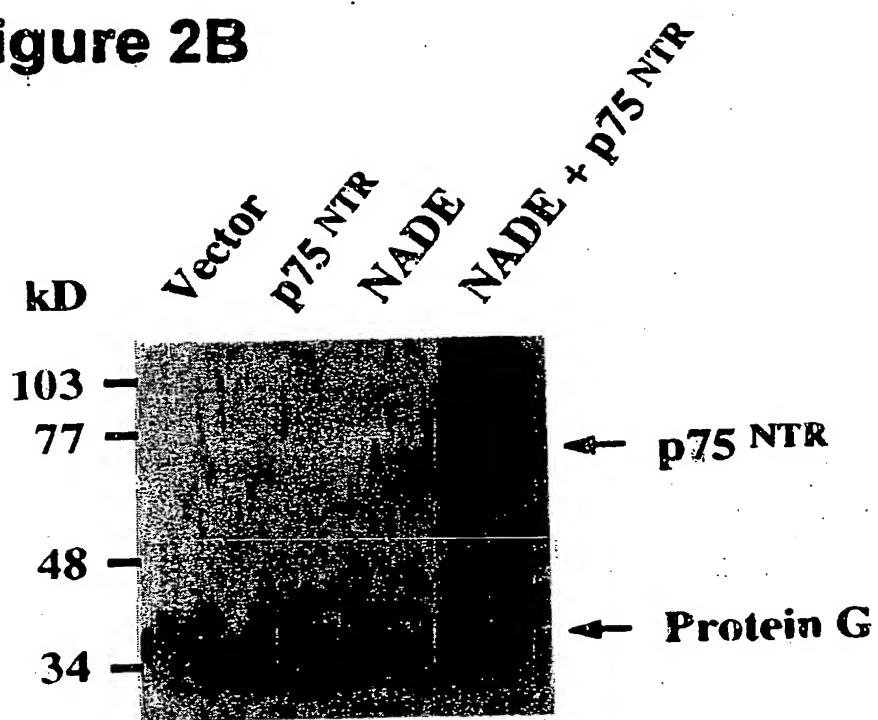
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**Figure 2B**



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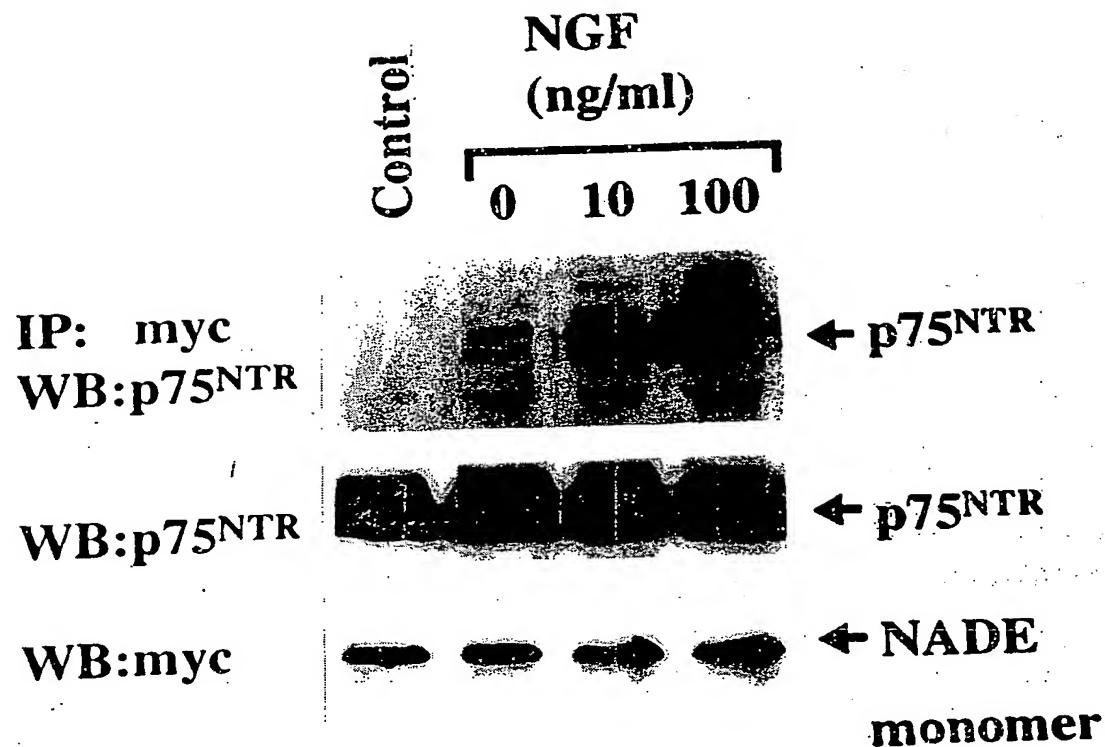
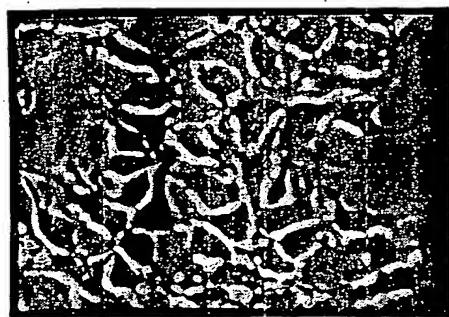


Figure 2C

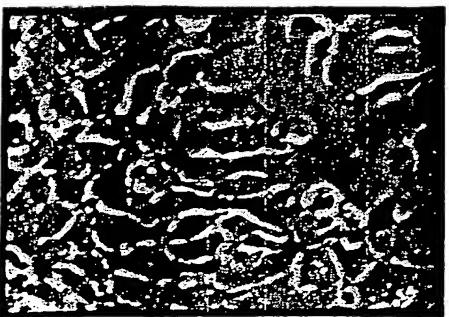
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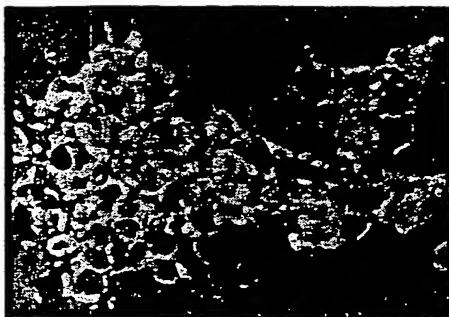
Control



NADE



p75<sup>NTR</sup>



NADE + p75<sup>NTR</sup>

Figure 3A

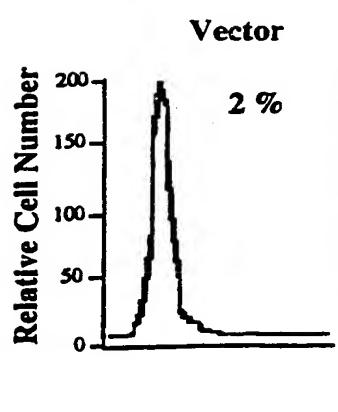
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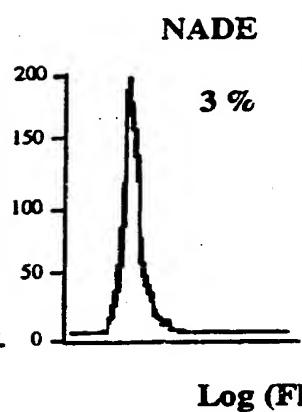
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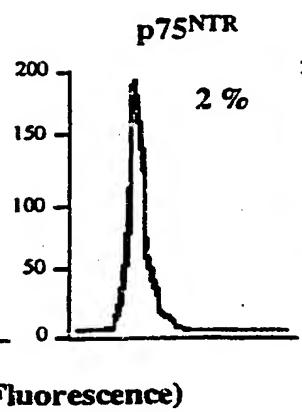
**Figure 3B-1**



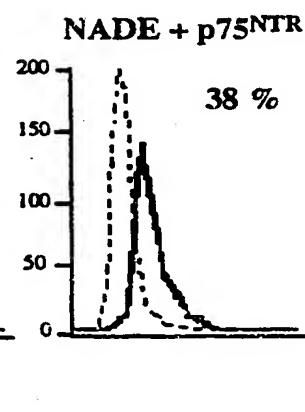
**Figure 3B-2**



**Figure 3B-3**



**Figure 3B-4**



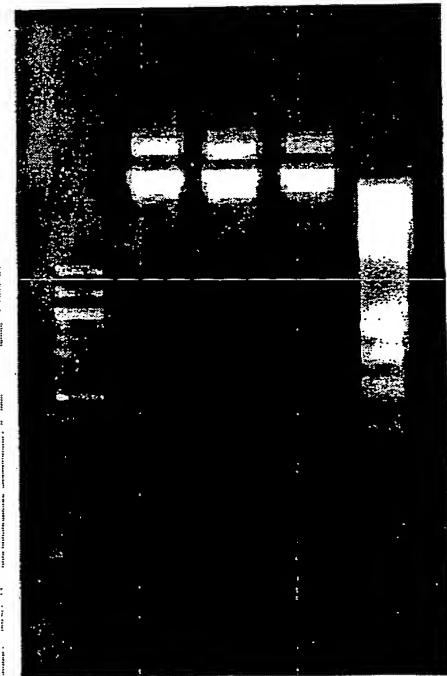
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Marker  
Vector  
p75NTR  
NADE  
NADE + p75 NTR



**Figure 3C**

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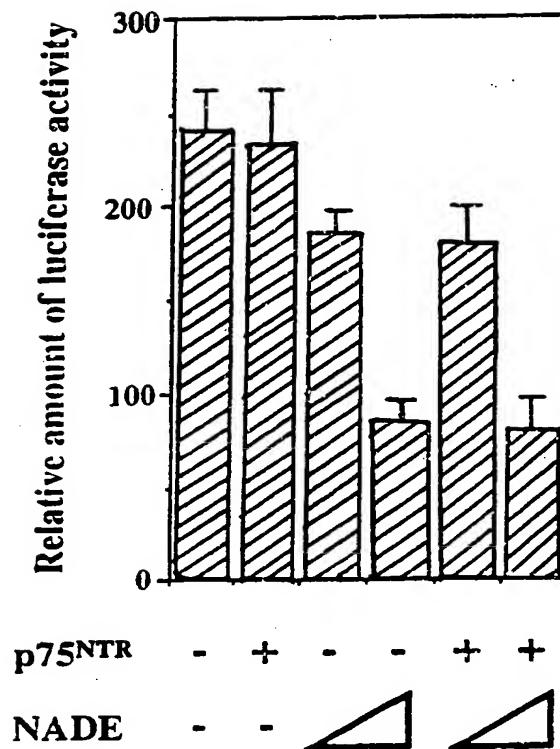


Figure 3D

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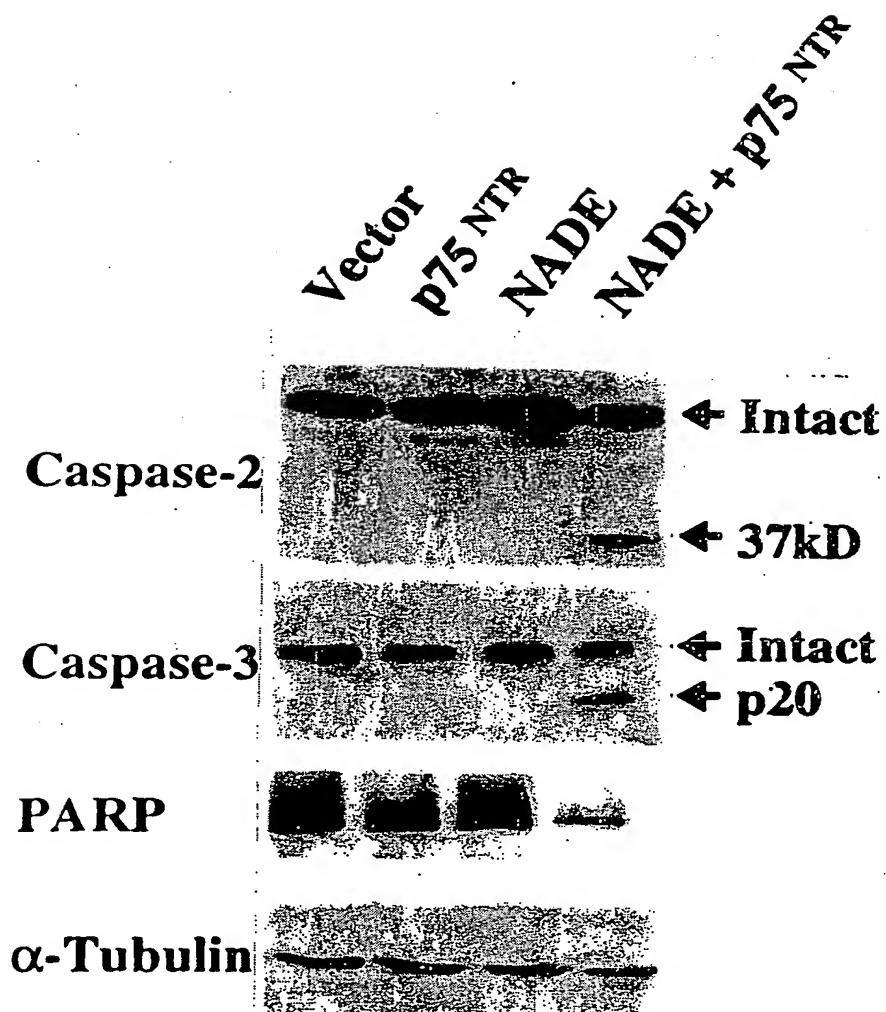


Figure 3E

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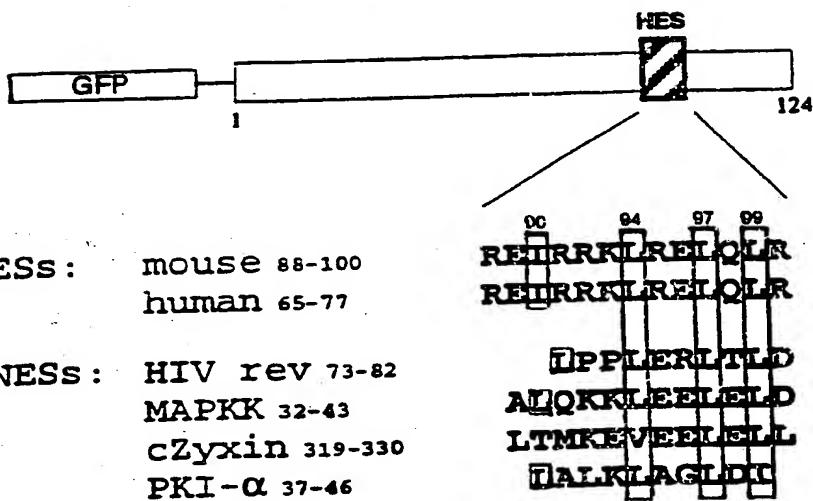
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**Figure 4A**  
**WT mouse NADE-GFP**

NADE NESS:      mouse 88-100  
                      human 65-77

Other NESSs:     HIV rev 73-82  
                  MAPKK 32-43  
                  cZyxin 319-330  
                  PKI- $\alpha$  37-46



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Figure 4B

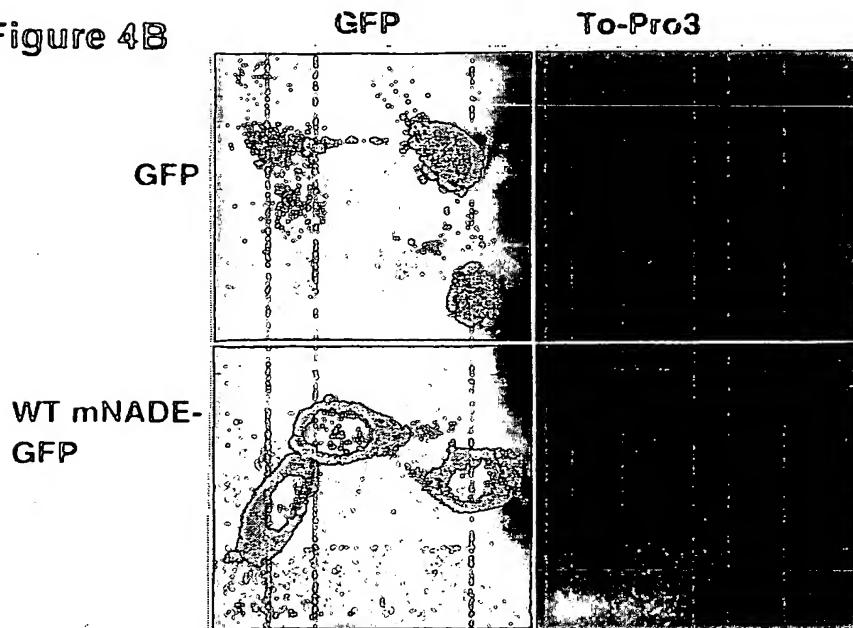
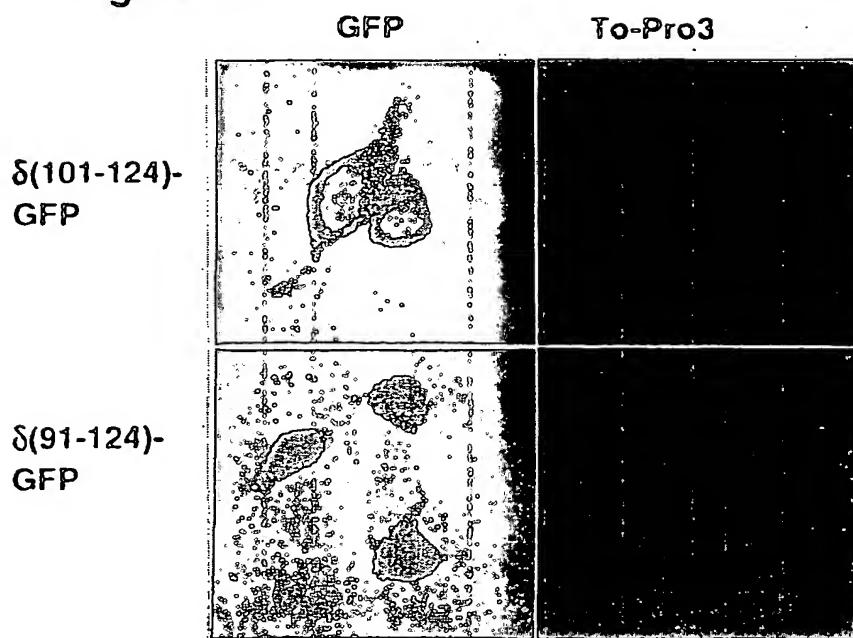


Figure 4C



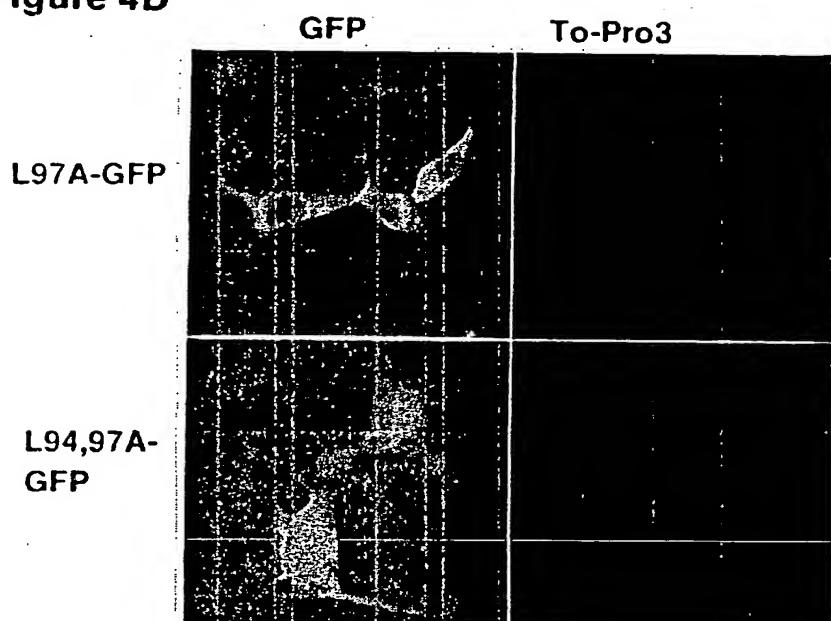
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**Figure 4D**



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FIGURE 5A

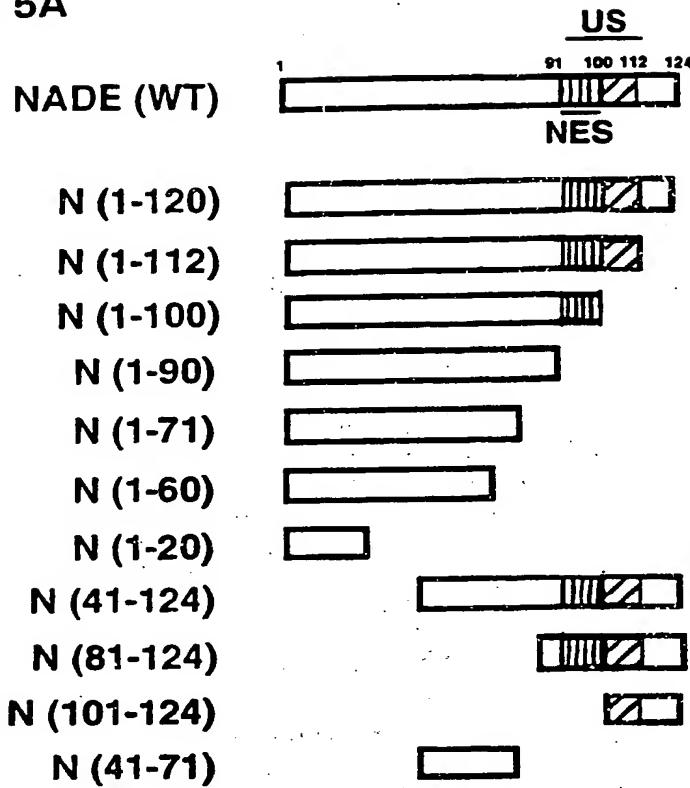
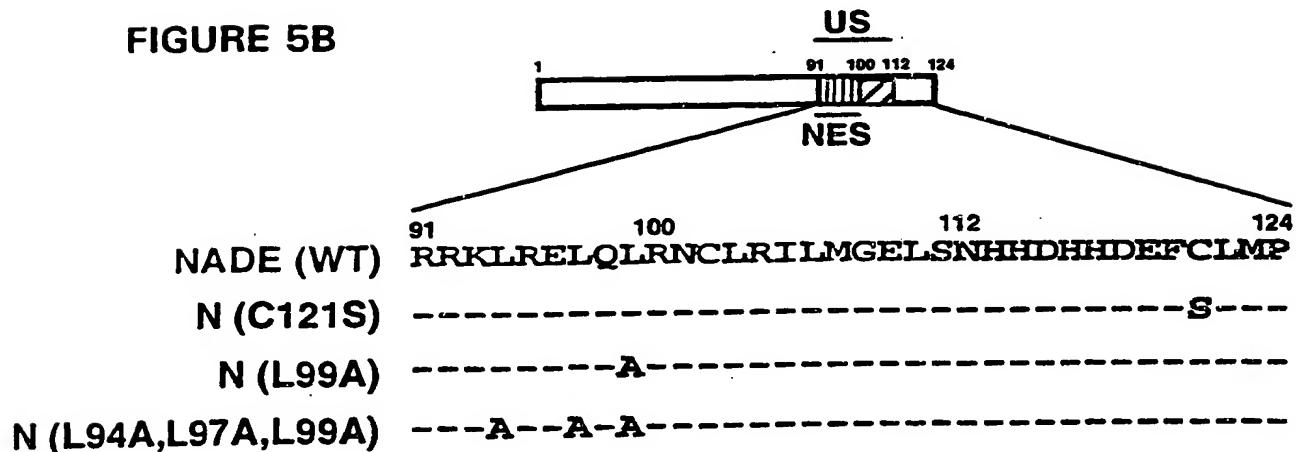
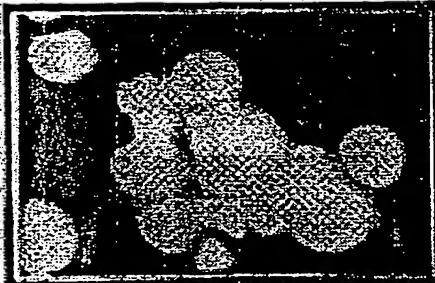
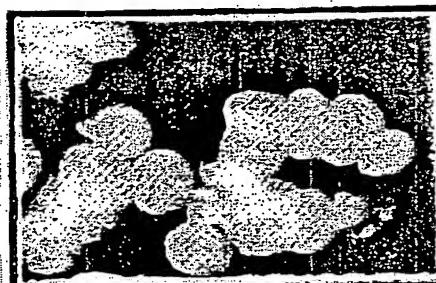
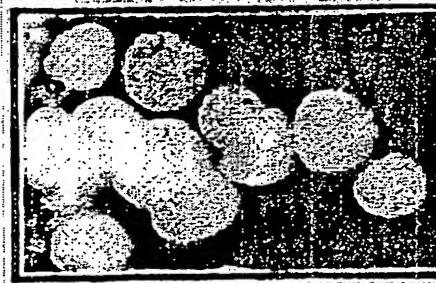
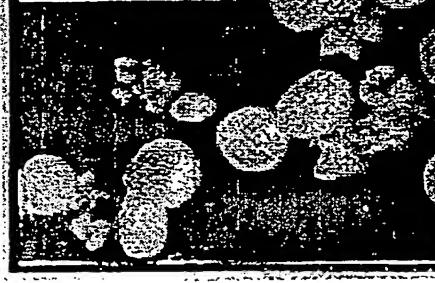
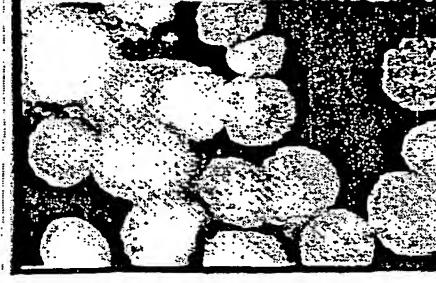


FIGURE 5B



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**NGF -****NGF +****Vector****NADE****p75NTR****NADE +  
p75NTR****FIGURE 6A**

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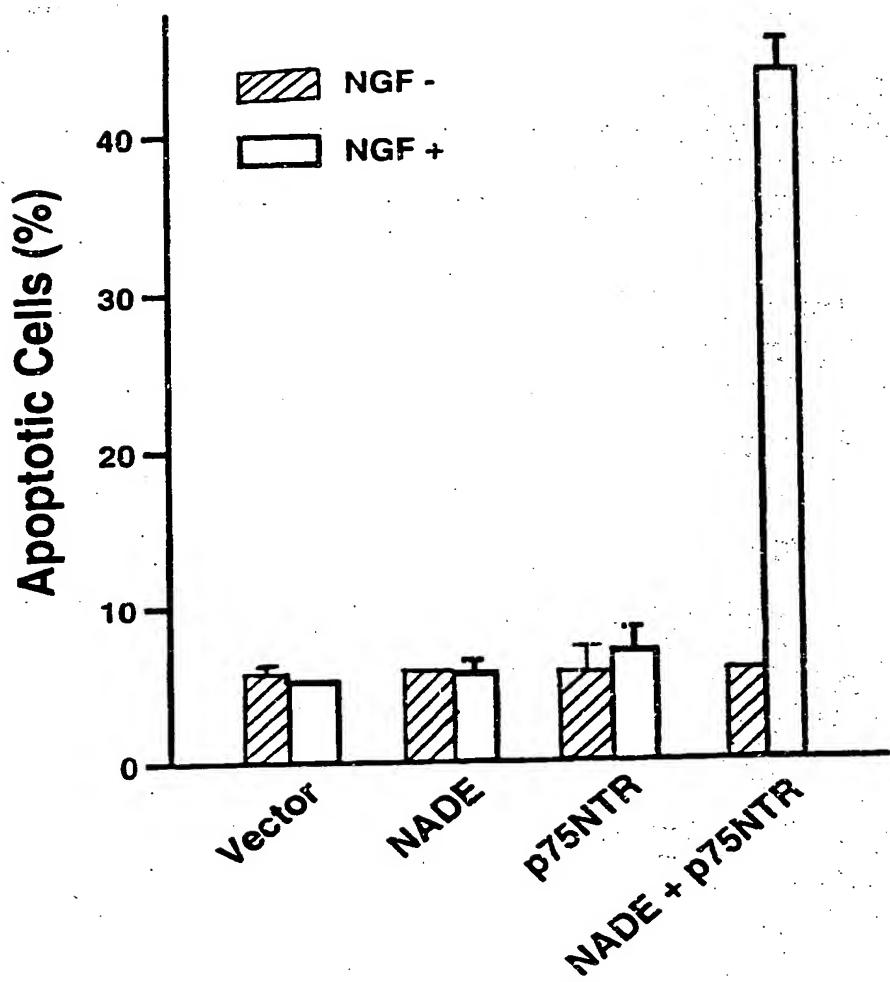


FIGURE 6B

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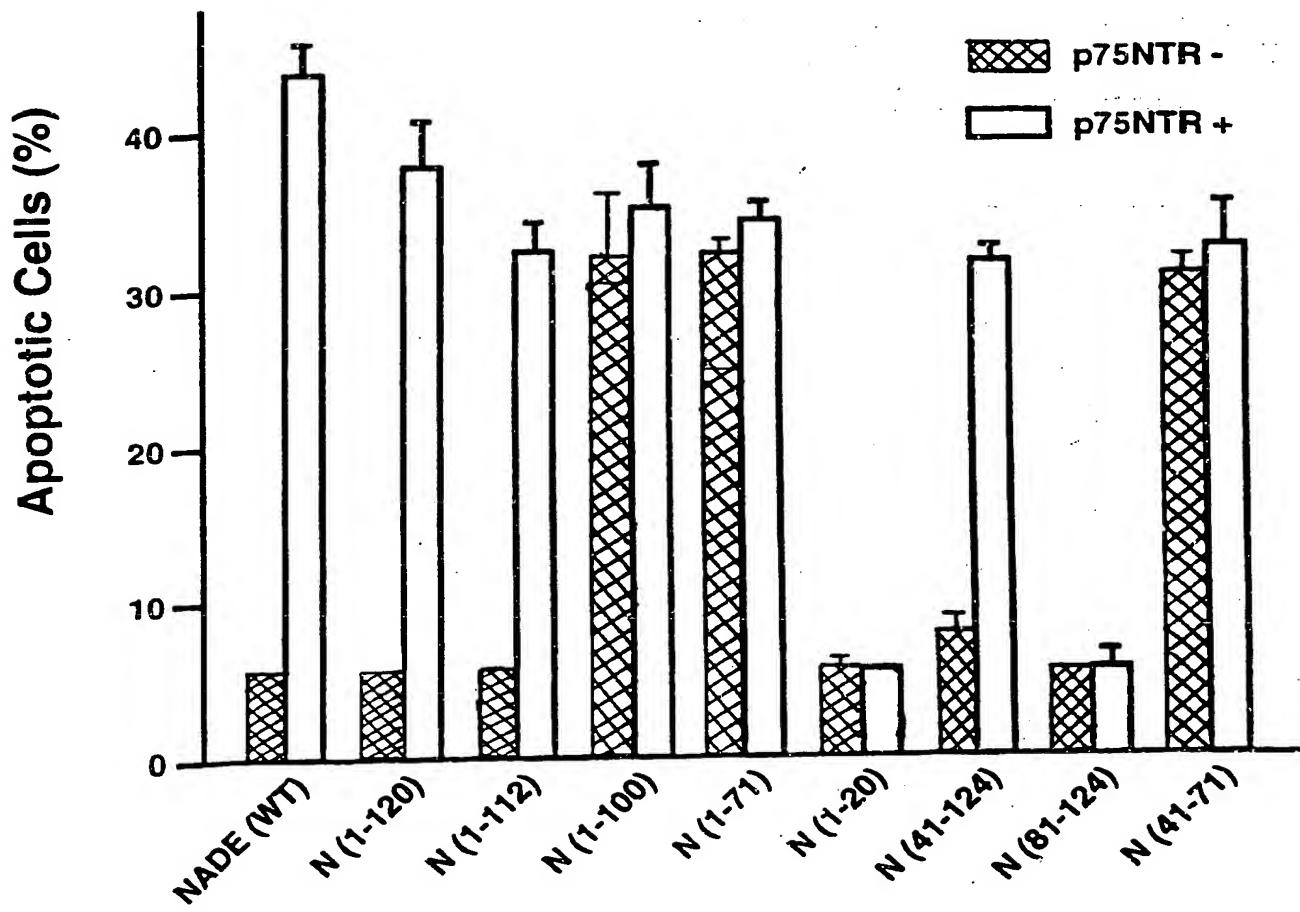


FIGURE 7

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**NADE NESs:** mouse 88-100  
rat 84-96  
human 65-77

REIRRKLRELQLR  
REIRRKLRELQLR  
REIRRKLRELQLR

**Other NESs:** PKI 37-45  
HIV rev 73-82  
MDM2 197-206  
MAPKK 32-43

LALAGLDIN  
LP-PLERLTLD  
L-SFIDESLALC  
ALQKKLEELID

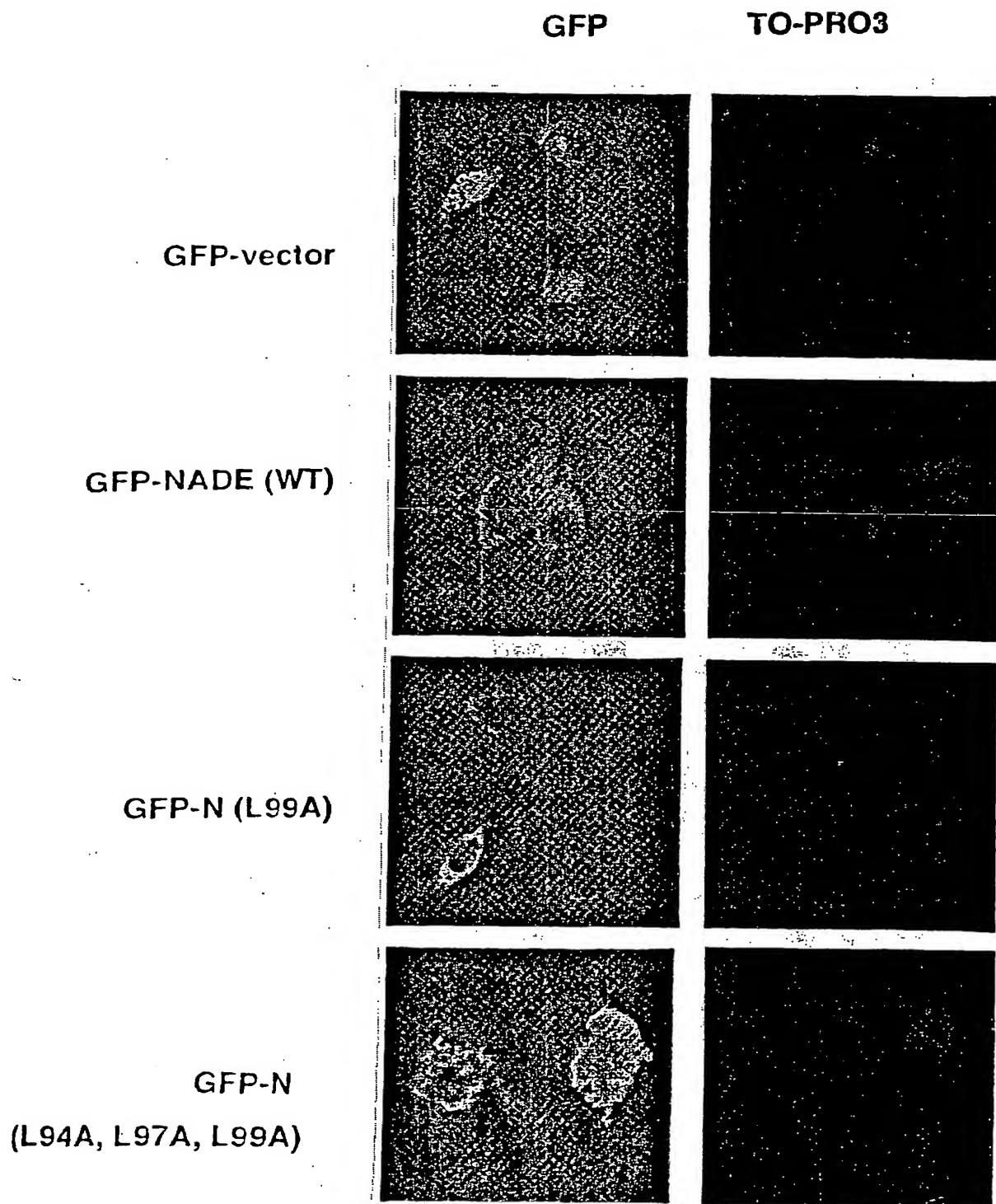
FIGURE 8A

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Figure 8B



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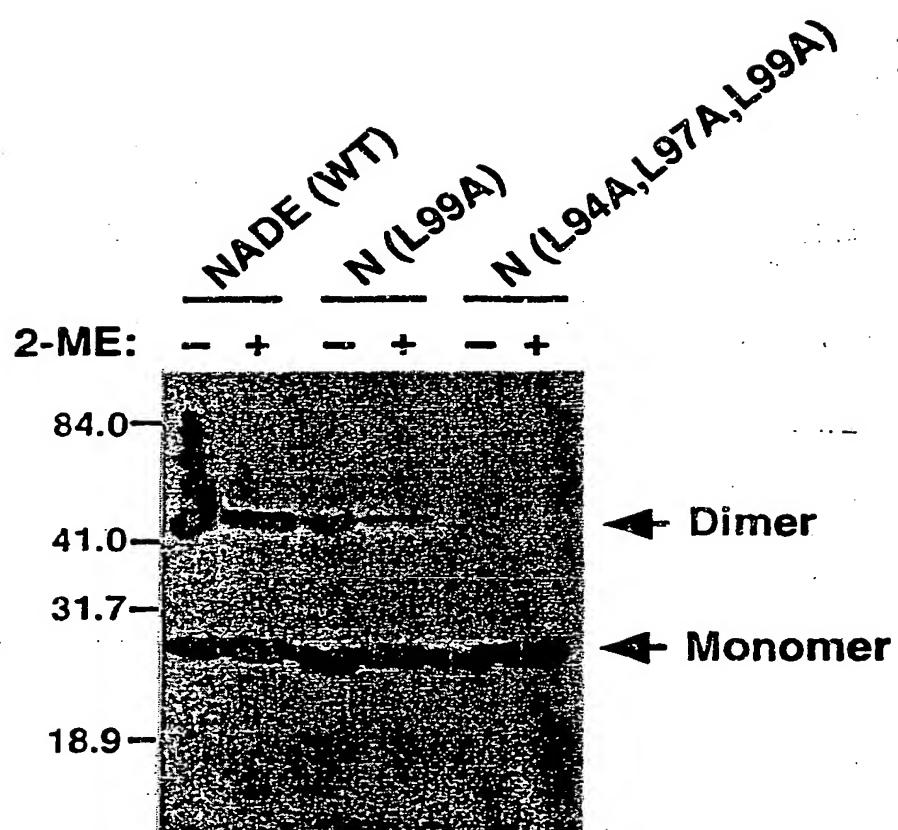


FIGURE 8C

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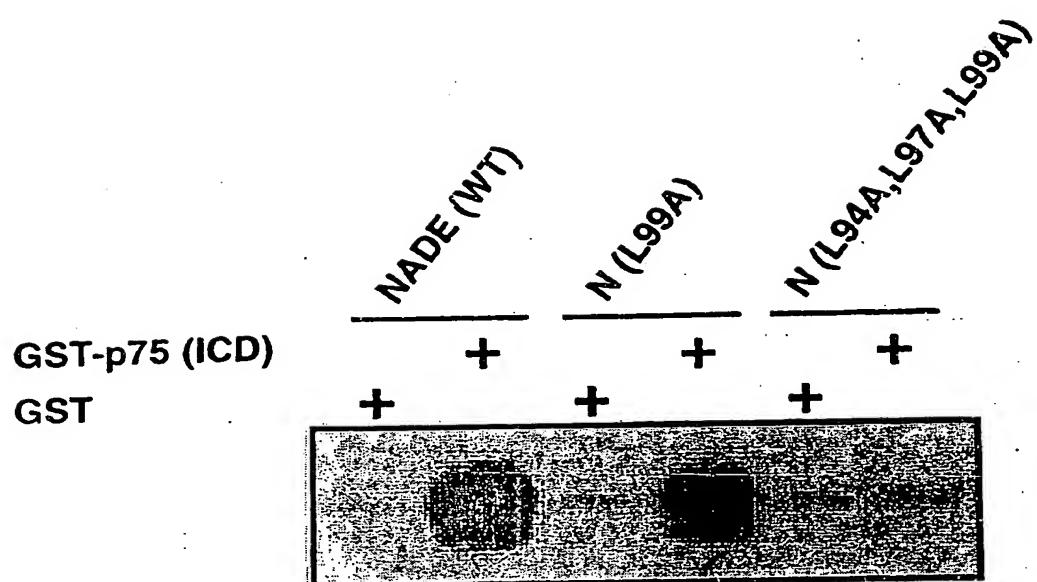


FIGURE 8D

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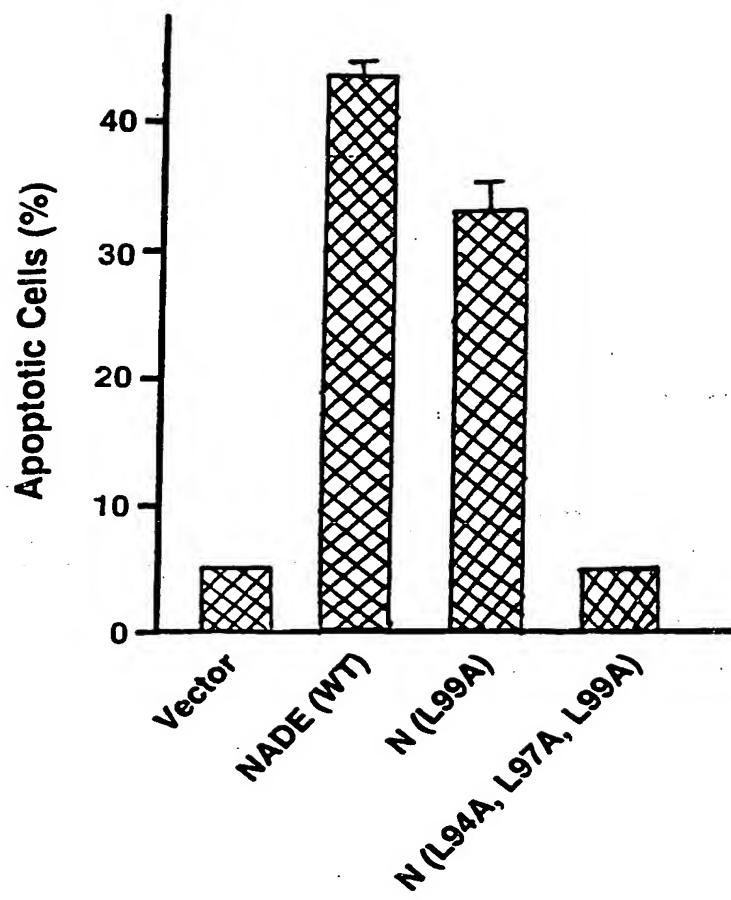


FIGURE 8E

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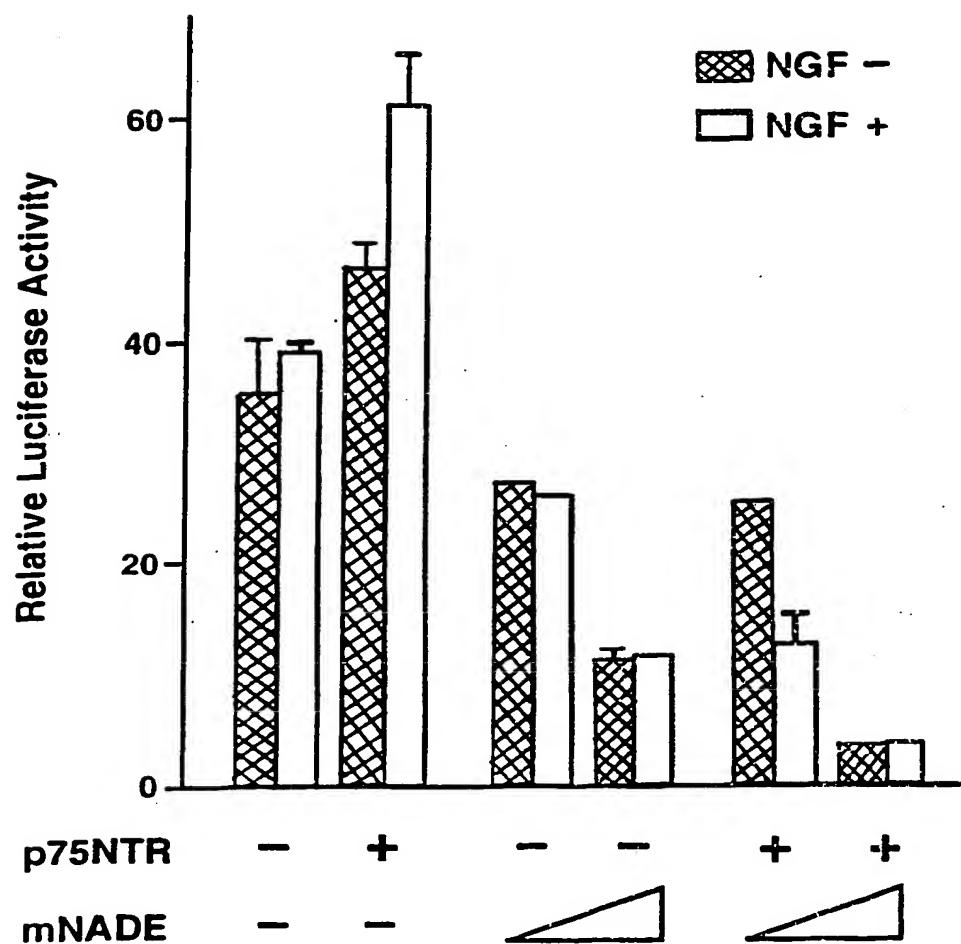
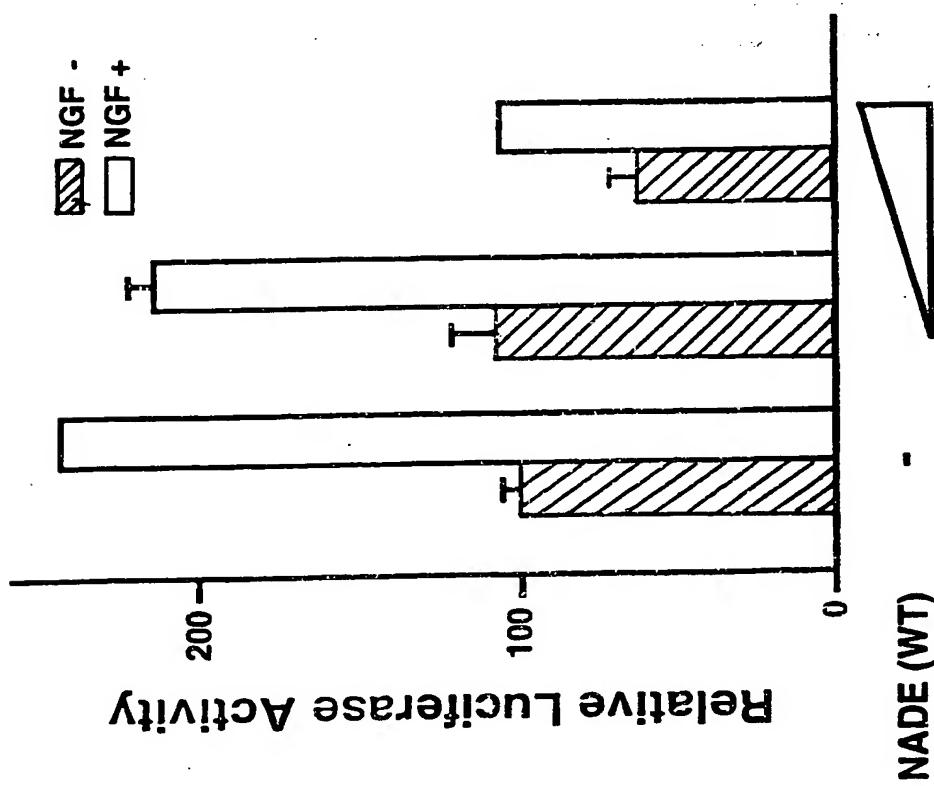
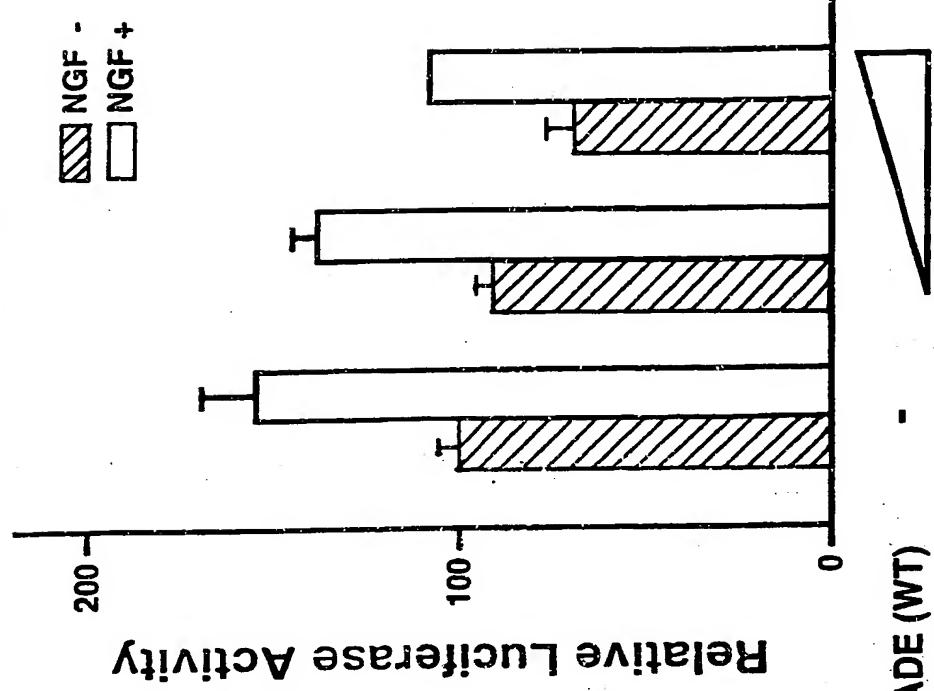


FIGURE 9A

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FIGURE 9B

**nnr5 cells**

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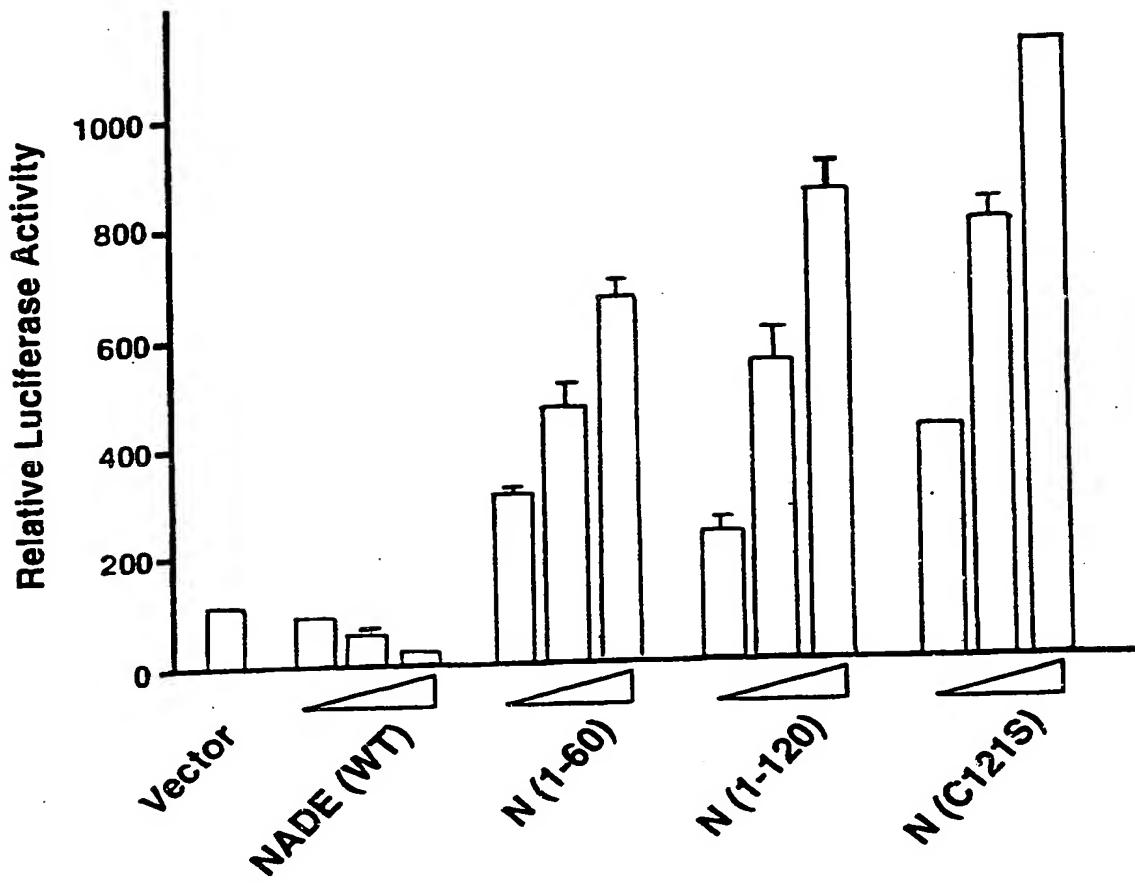


FIGURE 10

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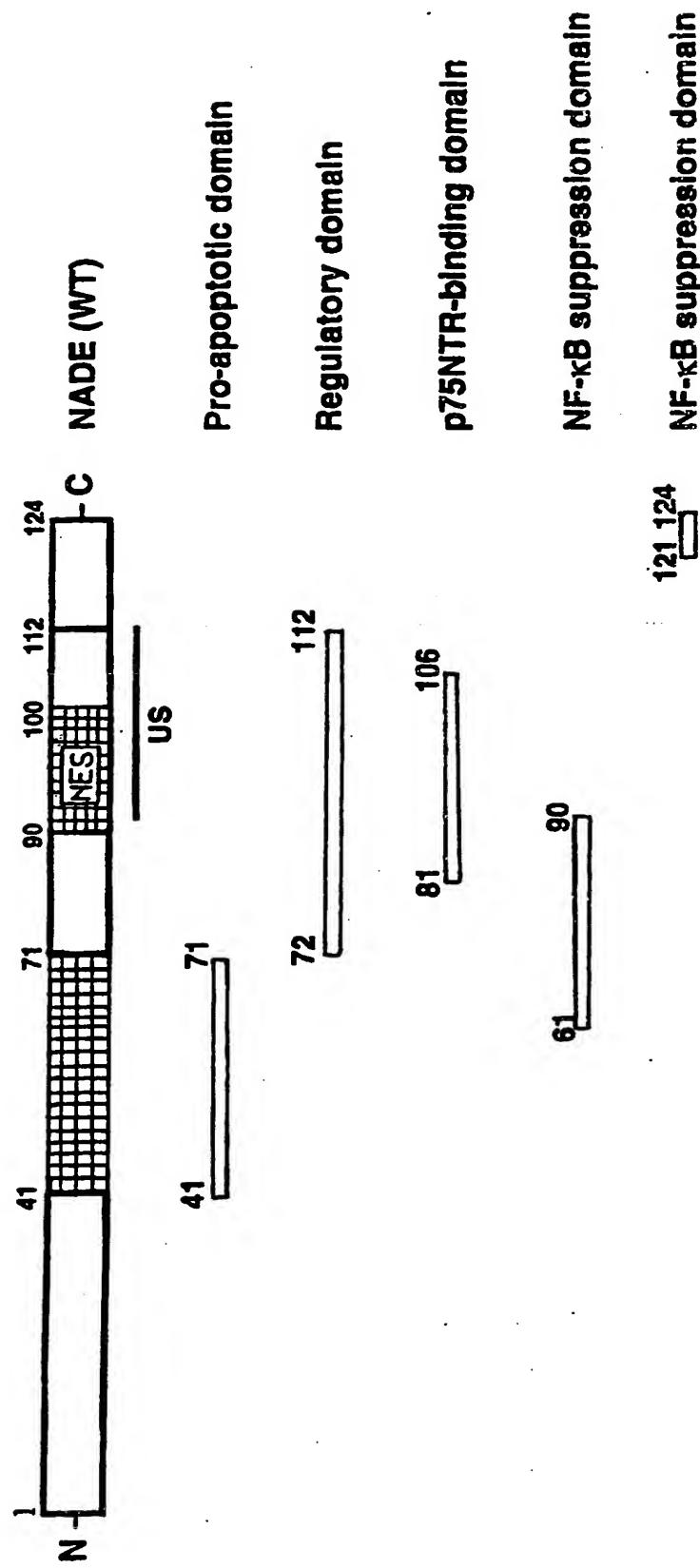


FIGURE 11